(a) [transforming] growing in a culture medium gram-negative bacteria comprising (i) a core lipid structure containing a terminal heptose and (ii) a DNA sequence encoding *rfe* (UDP-GlcNAc:Undecaprenol GlcNAc-1 phosphate transferase), and (iii) an isolated DNA sequence encoding a lipooligosaccharide-synthesis gene (*lsg*) from *Haemophilus influenzae*, wherein the *rfe* adds an acceptor molecule to the heptose molecule to synthesize an oligosaccharide [an enzyme that adds a galactose molecule to said the heptose wherein said transformed gram-negative bacteria are prepared by constructing a vector comprising an isolated DNA sequence coding for a glycotransferase that synthesizes an oligosaccharide;

(b) inoculating said transformed gram-negative bacteria into a culture medium capable of supporting the growth of said transformed bacteria;

(c) allowing growth of said inoculated gram-negative bacteria]; and

[(d)] (b) recovering [said oligosaccharide] the *H. influenzae*-specific LOS from the culture medium.

12. [Amended] The process of claim 11 wherein the transformed bacteria [is] are *Escherichia coli* [transformed with an isolated DNA sequence from *Haemophilus influenzae*].

18. [New] The process of claim 11, wherein the DNA sequence encoding *rfe* is part of the gram negative bacterial genome.

19. [New] The process of claim 11, wherein the isolated DNA sequence encoding the *lsg* is contained in a vector.

20. [New] A method of modifying a terminal heptose of a lipopolysaccharide (LPS) or lipooligosaccharide (LOS) core structure of a gram negative bacterial species containing an *rfe* (UDP-GlcNAc:Undecaprenol GlcNAc-a phosphate transferase) comprising regulating the *rfe* with an *lsgG* gene from *Haemophilus influenzae* in order to catalyze transferring N-acetyl glucosamine onto the terminal heptose.

21. A process for the production of a complex carbohydrate comprising the steps of:

(a) growing in a culture medium gram-negative bacteria comprising (i) a core lipid structure containing a terminal heptose and (ii) a DNA sequence encoding *rfe* (UDP-GlcNAc:Undecaprenol GlcNAc-1 phosphate transferase), and (iii) an isolated DNA sequence encoding a liposaccharide-synthesis gene G (*lsgG*) from *Haemophilus influenzae*, wherein the *rfe* adds an acceptor molecule to the heptose molecule to synthesize complex carbohydrate; and

(b) recovering the complex carbohydrate from the culture medium.

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on May 7, 2001, and the references cited therewith.

Claims 6-8, 11, and 12 are amended; claims 1, 5, 9, 14, 16, and 17 are canceled; and claims 18-21 are added; as a result, claims 6-8, 11, 12, and 18-21 are now pending in this application. No new subject matter has been added. The cancellations and amendments have been made to expedite prosecution of the present application and not for reasons of patentability. Therefore, the amendments are not intended to limit the scope of equivalents to which any claim element may be entitled. The amendments to the claims are fully supported by the specification as originally filed.

Claims 6-8 have been amended to change dependencies due to the cancellation of claims, and to correct grammar. Claim 7 has been amended to clarify that the acceptor molecule is (N-acetyl)glucoseamine. Support for this amendment is found in the specification at page 4, line 27.

Claim 11 has been amended, and claim 18-21 are newly added. Claim 11 recites a process for the production of a *Haemophilus influenzae*-specific lipooligosaccharide (LOS) by growing in a culture medium gram-negative bacteria comprising (i) a core lipid structure containing a terminal heptose and (ii) a DNA sequence encoding *rfe* (UDP-GlcNAc:Undecaprenol GlcNAc-1 phosphate transferase), and (iii) an isolated DNA sequence encoding a liposaccharide-synthesis gene (*lsg*) from *Haemophilus influenzae*, wherein the *rfe* adds an acceptor molecule to the heptose molecule to synthesize an oligosaccharide; and recovering the *Haemophilus influenzae*-specific LOS from the culture medium. Claim 21 recites